

OFFICE OF SCIENTIFIC INTELLIGENCE

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I. INTRODUCTION

A. The Nature and Purpose of Scientific Intelligence

1. Scientific intelligence includes all matters pertaining to foreign scientific research and technological development which bear on the national security of the United States. The responsibilities of the Office of Scientific Intelligence (O/SI) stem from an application of Section 102 of the National Security Act of 1947, the basic purposes of which may be stated as follows: (1) to advise and make recommendations to the Director of Central Intelligence and the National Security Council on scientific and technical intelligence matters relating to the national security; (2) to correlate, evaluate, and disseminate scientific and technical intelligence for the purposes of national intelligence; and (3) to perform such other functions in the scientific field as the National Security Council may direct.

2. In fulfilling this purpose O/SI must be fully aware of the problems and resources of the U.S. Government as a whole as they pertain to scientific intelligence. In its broadest sense scientific intelligence is a component of national intelligence and is, therefore, another facet for predicting over-all foreign capabilities, intentions, and vulnerabilities. In accomplishing this task scientific intelligence must concern itself not only with appraising the scientific and technical resources and intentions of a potential enemy, but also must evaluate the research capabilities of foreign science.

B. Scope and Objective of the Survey

1. This survey has confined its effort to an inspection of the Office of Scientific Intelligence with particular emphasis on: (1) the adequacy of primary responsibilities in O/SI for the production of basic scientific intelligence in support of Agency activities and for the coordination, integration, and production of national scientific and technical intelligence; and (2) the adequacy of the existing organizational structure, management practices, and leadership to carry out O/SI's scientific intelligence mission and functions in accordance with the responsibilities of the Agency.

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III. RECOMMENDATIONS

1. The DD/I should be directed by the DCI to prepare three staff studies by 1 February 1955 setting forth detailed plans for: (1) reconstituting and strengthening the SEC with the AD/SI as the permanent Chairman and staffing the committee with the most competent scientific intelligence specialists in the government; (2) revising the charter and intelligence mission of JAEIC with the view of recommending to the IAC that JAEIC be made a subcommittee of SEC; and (3) preparing a mission, function, and organizational structure of a Guided Missiles Subcommittee of the SEC.

2. As a minimum corrective effort the DD/I should direct the Assistant Director to produce the following by 1 February 1955: (1) make a careful study of DCID 4/2 on "Priority List of Critical National Intelligence Objectives" and produce a comprehensive statement of critical national scientific intelligence objectives and present this statement to the DCI for the consideration of the IAC; (2) acquire detailed and complete information on the production capabilities and competence of the various components in the Federal departments and agencies charged with scientific intelligence production; (3) produce a study on the qualitative and quantitative criteria for research in all scientific fields which fall within the mission and functions of O/SI; and (4) produce a long-range office approved research program on specific intelligence objectives.

4. The DCI, as Chairman of the IAC, should instruct the Chief JAEIC to submit his material for the production of an Atomic Energy National Estimate through ONE and from thence to the IAC for finalization.

5. The AD/SI should organize a panel of consultants to assist him in the capacity of an Advisory Board; organize a second panel of consultants capable of supporting the activities of the Intelligence Production Staff; and organize a third panel of consultants capable of providing guidance to the substantive divisions in their intelligence research efforts.

6. The AD/SI should strengthen the Intelligence Board by: (1) appointing the DAD/SI as the permanent Chairman and Chief IPS as vice Chairman; (2) requiring that all substantive staff and division chiefs attend regularly; (3) granting to the Board substantive authority to approve or disapprove the publication of all Office intelligence including research aids; and (4) reviewing all production programs in terms of support to CIA and in accordance with the needs of the intelligence community and recommending appropriate action to the AD/SI.

7. The AD/SI should: (1) assume the chairmanship of the O/SI Career Service Board or appoint an interim acting Board chairman; (2) require the Board members to fulfill their planning functions; (3) require that all PER's be brought up to date and reviewed by the Board; and (4) require the Chief NED to participate in the Office career program.

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e. The elimination of Scientific Analysis Division (SAD) and the creation of a new Priority Projects Division (PPD) is almost contradictory in its effect. The SAD provides a service to all other divisions by performing all-source research in depth and producing intelligence on any subject. The proposed PPD will conduct continuing research and produce intelligence in projects of a priority nature which cut across divisional lines of responsibility. The SAD as presently constituted is able to perform this function and there appears to be no justification for making the recommended change.

f. The recommendations (1) to take immediate steps to plan O/SI production objectives and programs and (2) for the establishment of a projects reporting and control system are fully endorsed but the creation of two new staffs to handle these assignments is unnecessary. The existing components have the authority and ability to perform these functions and require only adequate executive leadership to make them effective.

2. Conclusions

a. The existing structure of organization in O/SI consists of eight divisions based on the fields of scientific disciplines with three staffs, Intelligence Production, Operations and Executive Officer to supply necessary support. In addition, there is the Intelligence Board which is an advisory body and does not appear on the organization chart.

b. The structure is logical and is adequate for the purpose of conducting the basic scientific intelligence research for which it was designed. It fails, however, to provide a smooth working organization capable of handling complex subjects such as guided missiles or weapons delivery systems which cut across all divisional lines. Efforts have been made to accommodate these subjects by organizing task forces or creating separate components but without significant success.

c. The major weaknesses of the present structure are:

(1) wide-spread span of management control (eleven components on the chart plus Intelligence Board and Planning Officer),

(2) duplication of effort because of related activities and overlapping of areas of responsibility, and

(3) difficulty of coordination of activities requiring the support of more than one division.

d. Careful consideration should be given to the ultimate reorganization of O/SI which will (1) reduce the span of management control to not more than five components, (2) better define areas of responsibility, and (3) provide a mechanism which can readily produce coordinated office intelligence.

e. No action should be taken to implement the recommendations of the Management Staff Study nor should any reorganization of O/SI be undertaken until the following steps have been taken:

(1) A thorough survey of the intelligence community must be made to determine the full extent of the capabilities of other agencies to produce intelligence in the scientific and technical fields,

(2) The responsibility of CIA to produce intelligence in the scientific and technical fields must be clearly defined, and

(3) The objectives of O/SI must be firmly established so that there can be no question or doubt about the mission of the office, and, if necessary, the existing directives must be modified to clearly express these objectives.

f. Only after these steps have been taken can an efficient organizational structure be devised which will allow the Office to accomplish its missions effectively and economically.

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C-O-P-Y

19 April 1954

MEMORANDUM FOR: Chief, Operations/SI

SUBJECT: Long-Range Planning for the Office

1. One of the very important exercises within the office that, in my opinion, has been neglected in the past (for good and sufficient reasons) is that of long-range planning. Each of us has done a certain amount, but the over-all total has not been reduced to writing. Many of us have not had free time to think problems through. It is for that reason that I asked you a week or so ago to detach yourself from the Operations staff for an exercise which I defined in general terms.

2. The outcome of the exercise that I have in mind would be to recognize, and make plans for, important objectives for the office, defined as "goals", the progress of attainment for which we could measure on a time schedule. For example, what should we try to accomplish in the next 6 months; 9 months; 18 months; 24 months? This must be realistically drawn and reflect the manpower and capabilities of our group.

3. More specifically, the study could include:

a. Definition and clarification of the basic policy regarding the function and organization of scientific intelligence in the total strategic intelligence picture.

b. A clear definitive statement of the mission of OSI in the intelligence community and steps to be taken to reach this goal.

4. Other subjects will come to mind as the study progresses. My main purpose of asking you to undertake the exercise is to initiate some planning for the office detached from the handling of day-by-day office problems.

(signed: H. Marshall Chadwell)

H. MARSHALL CHADWELL

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DIRECTOR OF CENTRAL INTELLIGENCE DIRECTIVE 3/4
PRODUCTION OF SCIENTIFIC AND TECHNICAL INTELLIGENCE

(8/14/52; SECRET)

Pursuant to the provisions of NSCID No. 3, and for the purpose of strengthening the over-all governmental intelligence structure for the production of scientific and technical intelligence, the following policies and operating procedures are hereby established:

1. Policies

In discharging allocated responsibilities and effecting integration of intelligence, the interested departments and agencies will apply the following basic principles:

a. No complete separation of areas of interest is possible or necessarily desirable in scientific and technical intelligence activities.

b. Full and free interchange of all intelligence information and finished intelligence between all agencies concerned is essential.

c. No one agency is considered to be the final authority in any field; conclusions may be questioned by other IAC agencies and dissents recorded.

d. Any agency may make such studies as it believes necessary to supplement intelligence obtained from other agencies in order to fulfill its agency functions, but such studies should not normally be disseminated outside the producing agency without advance consultation with the agency having primary responsibility for the subject-matter involved.

e. An agency charged with primary responsibility in a particular field will develop special competence in that field and will normally carry out all or most of the research in that field.

f. Each intelligence agency will endeavor to coordinate the intelligence activities of its Technical Services and its other facilities having intelligence production capabilities with the work of the IAC intelligence agencies and to make available to those agencies the intelligence produced by such Services and facilities.

2. Procedures:

a. *Delineation of Dominant Interests.* The general field of scientific and technical intelligence production is subdivided into three basic major areas, and allocation of primary production responsibilities therein is made as follows:

(1) Intelligence on all weapons, weapons systems, military equipment and techniques, plus intelligence on pertinent research and development leading to new military material and techniques: primary production responsibility of the departments of the Department of Defense, as exemplified in Annex A.

(2) Intelligence on fundamental research in the basic sciences, on scientific resources, and on medicine (other than military medicine) plus intelligence on pertinent applied research and develop-

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ment: — primary production responsibility of Central Intelligence Agency, as exemplified in Annex B.

(3) Intelligence on Atomic Energy — production responsibility of all interested agencies.

b. It is recognized that despite the above-mentioned specific allocations of primary production responsibilities to the Military Services and CIA, the Military Services will also require intelligence indicating trends from fundamental research in basic sciences, which they normally will obtain from CIA. Conversely, CIA will also require intelligence on applied research relating to weapons, weapons systems, military equipment and techniques, and the technical characteristics of existing equipment, which it normally will obtain from the Military Services. Accordingly, there continue to exist areas of common or overlapping interest which require continuing inter-agency liaison and such working-level conferences as may be appropriate.

c. Coordinating Mechanisms

(1) The Joint Atomic Energy Intelligence Committee is hereby reconstituted as a permanent interdepartmental committee with the same structure and functions as before.

(2) Subject to the foregoing, there is hereby established the Scientific Estimates Committee, a permanent interdepartmental committee, to integrate scientific and technical intelligence, as and when required, for the production of national intelligence, to stimulate and guide inter-agency liaison and such working-level conferences as may be appropriate, and to coordinate the production of Chapter VII of the NIS.

(3) The Scientific Estimates Committee shall be composed of designated representatives as members from CIA, the Joint Staff, the Departments of State, Army, Navy, and Air Force, the Atomic Energy Commission, and such other ad hoc representatives as may be determined necessary by the regular committee members. In order to maintain continuity and stability, each department and agency mentioned above will designate a regular member and, if desired, an alternate by transmitting names and titles to the Director of Central Intelligence. This action will not preclude the designation of such additional persons as may be technically and otherwise qualified to discuss or report on a particular subject under consideration by the Committee. The Chairman will be elected annually. The Committee will establish its methods of procedure. The Central Intelligence Agency shall provide an executive secretary and secretariat as required.

(4) It is recommended that the SEC concentrate on the integration of intelligence opinion (other than that for which the JAEIC is responsible) as and when required for the purposes of national intelligence, and only incidentally assist in the coordination of production of other intelligence in scientific and technical fields. The principal occasion for activity on the part of the committee will arise when contributions are required for national intelligence purposes. The Committee's activities will be directed to synthesizing

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departmental intelligence, and while so doing to bring to light any inconsistencies resulting from the production activities of the respective departments and agencies, each operating within its assigned sphere of responsibility, and to resolve conflicting conclusions, or have appropriate dissenting views registered for the benefit of the national intelligence production organization.

(5) The SEC can best assist in the coordination of production of intelligence in scientific and technical fields by stimulating and guiding inter-agency liaison and working-level conferences.

3. Director of Central Intelligence Directive 3/3* is herewith rescinded.

WALTER B. SMITH
Director of Central Intelligence

ANNEX A

Responsibilities of the departments of the Department of Defense for intelligence on all weapons, weapons systems, equipment and techniques, plus intelligence on pertinent research and development leading to new military material and techniques, including for example:

- a. Aircraft and equipment, military, and civil
- b. Vessels and equipment
- c. Military motorized equipment
- d. Ordnance
- e. Military engineering equipment
- f. Railroad equipment (military types)
- g. Guided missiles
- h. Military electronic systems and equipment
 - (1) Radar equipment
 - (2) Electronic reconnaissance devices
 - (3) Electronic countermeasures
 - (4) Electronic navigational devices
 - (5) Telecommunications equipment
- i. Chemical warfare
- j. Biological warfare
- k. Military medicine, including
 - (1) Medical aspects of civil defense in the USSR.
 - (2) Medical vulnerabilities of man and animals to BW agents, and capabilities for medical defense of man and animals against BW agents.

ANNEX B

Responsibilities of CIA/OSI for Intelligence on Fundamental Research in the Basic Sciences, Basic Scientific Resources, and Medicine (excluding Military Medicine), plus Intelligence on Pertinent Applied Research and Development, including, for example:

- 1. Basic Sciences
 - a. Biological and Medical sciences

* (Note: DCI 3/3, "Scientific Intelligence," was issued 28 October 1949.)

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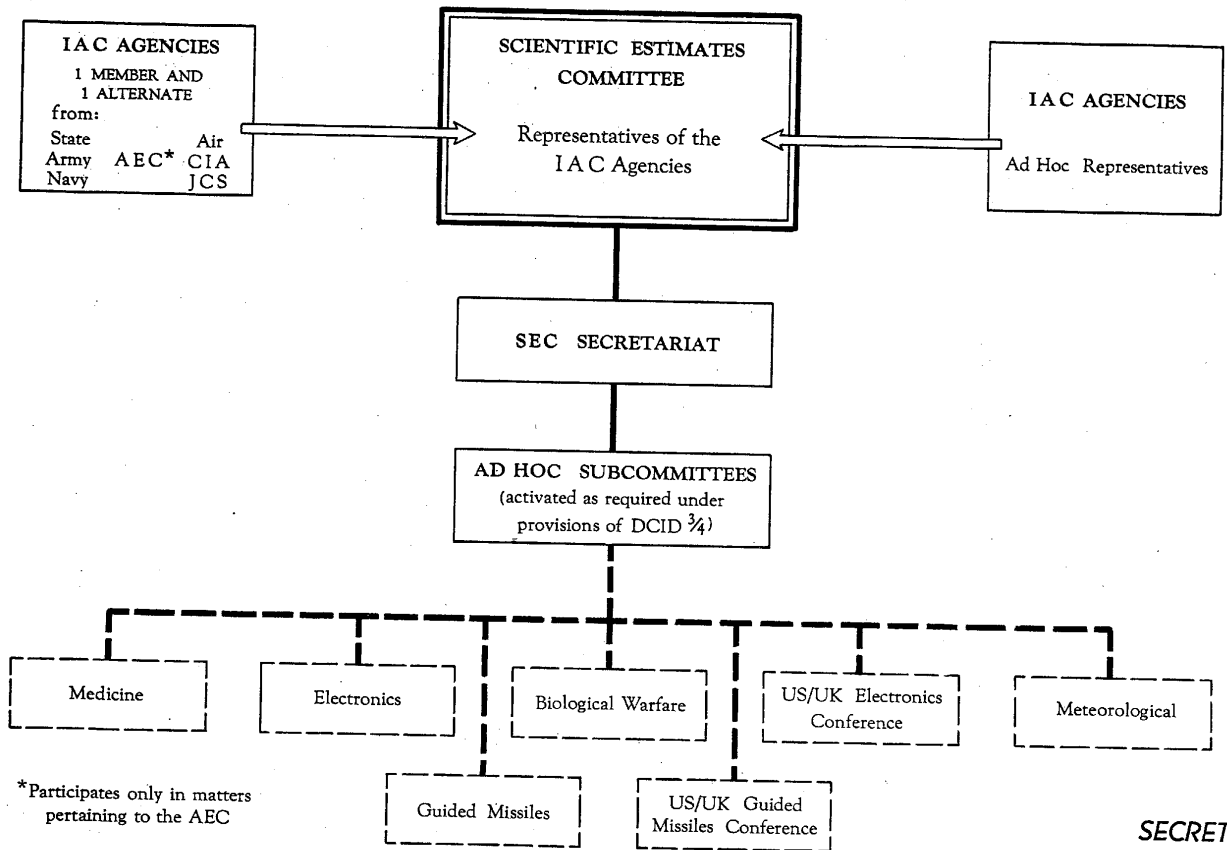
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- b. Chemistry
 - c. Metallurgy
 - d. Physics and Geophysics
 - e. Mechanics
 - f. Electromagnetic wave propagation and ionospherics
 - g. Cosmic radiation and particles
 - h. Thermodynamics, including low-temperature Physics
 - i. Terrestrial Magnetism
 - j. Meteorology
 - k. Mathematics
 - l. Astronomy
2. Basic Scientific Resources
- a. Magnitude and scale of scientific effort and achievement, including dependence on foreign science
 - b. Scientific education and training
 - c. The organization of science, academics, etc.
 - d. The operation, administration, and control of science, including scientific and technical planning and financing, and the exchange of information through publications and contacts
 - e. Scientific manpower, its volume and composition
 - f. Scientific laboratories and equipment, its quality and availability
 - g. History and philosophy of science
3. Medicine (for Medical Research, see paragraph 1 a)
- a. Medical organization and administration medical activities of important foreign countries
 - b. Organization and administration of veterinary medicine in important foreign countries
 - c. Medical supply situation (particularly in the Soviet orbit)
 - d. Use of blood and blood substitutes in the Soviet orbit.

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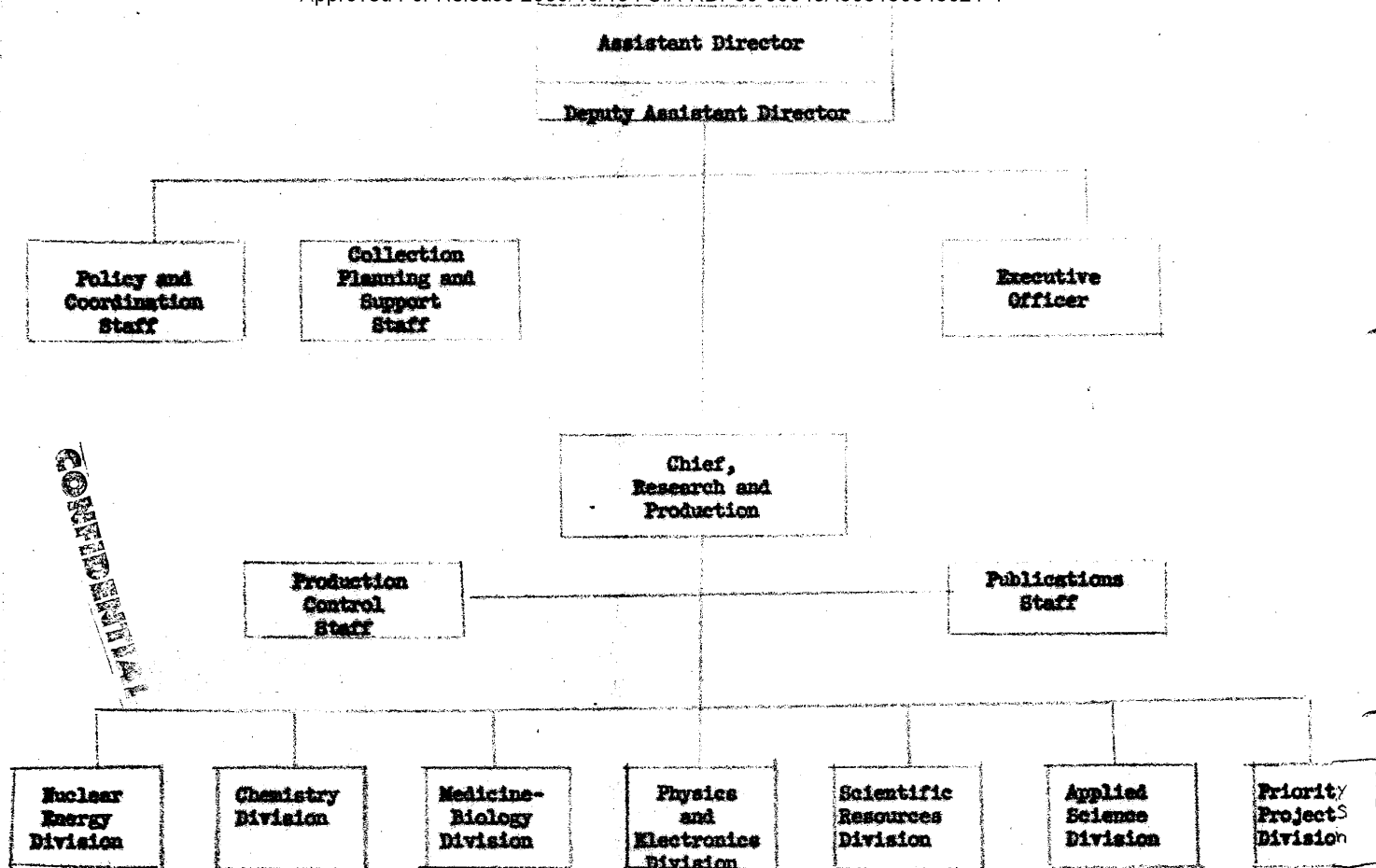
ORGANIZATION OF THE SCIENTIFIC ESTIMATES COMMITTEE



*Participates only in matters pertaining to the AEC

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**Proposed Organization Chart
Office of Scientific Intelligence**